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| APPLICATION NO.           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/764,684                | 01/23/2004  | Jawed Sarkar         | 7673-P2             | 9467             |
| 49459                     | 7590        | 02/17/2006           | EXAMINER            |                  |
| NALCO COMPANY             |             |                      | HRUSKOCI, PETER A   |                  |
| 1601 W. DIEHL ROAD        |             |                      | ART UNIT            |                  |
| NAPERVILLE, IL 60563-1198 |             |                      | PAPER NUMBER        |                  |

1724

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/764,684             | SARKAR ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Peter A. Hruskoci      | 1724                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In claims 1, 4, and 14 “in the absence of chemical and enzymatic oxidants” is drawn to subject that lacks clear antecedent basis in the specification as originally filed, and appears to be drawn to new matter. Claims 2, 3, 5-13, and 15-20 depend from the above claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0291665 Rohm. Rohm disclose (see pages 2-8 of translation) a method of clarifying and dewatering a wastewater including sludge substantially as claimed. The claims differ from Rohm as applied above by reciting that the wastewater is an industrial wastewater, industrial sludge, or a specific aerobic digestion sludge, and the method recites the absence of chemical and enzymatic oxidants. It is submitted that the sludge clarified and dewatered in Rohm is considered patentably indistinguishable from the wastewater and sludges recited in the instant claims. It is further submitted that the method of Rohm does not appear to include the use of chemical and enzymatic oxidants. It would have been obvious to one skilled in the art to utilize the method of Rohm to treat the recited wastewater and sludges, to aid in separating solids from the wastewater

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and dewatering the sludges. With regard to claim 4, it is submitted that the sludge treated in Rohm would appear to include biopolymers and thermophilic bacteria.

Claims 5-11 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0291665 Rohm as above, and further in view of Schulein et al. 6,001,639. The claims differ from Rohm as applied above by reciting that the enzymes comprise a specific mixture or preparation including endoglucanase. Schulein et al. disclose (see col. 1 lines 20-52, and col. 41 line 63 through col. 42 line 9) that it is known in the art to utilize enzyme preparation including endoglucanase activity to improve degradability in waste water plants. It would have been obvious to one skilled in the art to modify the method of Rohm by utilizing the recited mixture and preparation in view of the teachings of Schulein et al., to aid in degrading cellulose in the wastewater dewatering the sludges. The specific mixtures and preparations utilized would have been an obvious matter of process optimization to one skilled in the art, depending on the specific wastewater treated and results desired, absent a sufficient showing of unexpected results.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0291665 Rohm as above, and further in view of Huhtamaki et al. 5,827,432. The claim differ from Rohm as applied above by reciting that the addition of a coagulant to the wastewater. Huhtamaki et al. disclose ( see col. 5 line 29 through col. 7 line 12) that it is known in the art to add a coagulant to aid in separating solid matter from a sludge. It would have been obvious to one skilled in the art to modify the method of Rohm by addition of a coagulant in view of the teachings of Huhtamaki et al., to aid in separating solids from the wastewater.

Claims 13, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0291665 Rohm and Schulein et al. as above, and further in view of Huhtamaki et al. 5,827,432.

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The claims differ from the references as applied above by reciting that the addition of a coagulant to the wastewater. Huhtamaki et al. disclose ( see col. 5 line 29 through col. 7 line 12) that it is known in the art to add a coagulant to aid in separating solid matter from a sludge. It would have been obvious to one skilled in the art to modify the references as applied above by addition of a coagulant in view of the teachings of Huhtamaki et al., to aid in separating solids from the wastewater.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,733,673 or claims 1-11 of U.S. Patent 6,733,674. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method steps recited in the instant claims appear to be included in the method steps recited in the claims of the patents, respectively. It is submitted that

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the wastewater or sludge, and clarifying of wastewater as recited in the instant claims appears to be included in the claims of the patents. It is further submitted that the exclusion of chemical and enzymatic oxidants from the methods of Sarker et al. and the function produced by these oxidants, would have been prima facie obvious to one skilled in the art, absent a sufficient showing of unexpected results.

Applicants allege that the industrial wastewater and sludges as recited in the instant claims are considerable different from the municipal or biologically clarified sludges described by Rohm. It is submitted that the activated sludge recited in claim 3 would appear to be produced by a aerobic biological digestion step followed by a clarification step, and is considered patentably indistinguishable from the sludge of Rohm. It is noted that the instant claims fail to recite a specific content of inorganic solids or an organic loading of contaminants. Furthermore, applicants have not supplied sufficient factual evidence to support the above allegation.

Applicants argue that the ATAD sludges recited in claim 4 represent a new and fundamentally different class of sludge which includes specific biopolymers produced using thermophilic bacteria, and Rohm does not teach that enzyme treatments would be efficacious for treating these sludges. It is submitted that this sludge does not appear to be excluded from the teachings of Rohm. Furthermore, applicants have not supplied sufficient comparative evidence with Rohm to support the above argument.

Applicants argue that Schulein does not suggest that endoglucanase would have any utility for clarification and dewatering of wastewater and sludges as in the instant method. It is submitted that Schulein discloses in col. 41 line 63 through col. 42 line 11 that endoglucanase improves the degradability is wastewater plants. It is submitted that the combined teachings of

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Rohm and Schulein as applied above would suggest utility, to one skilled in the art having the references before him, for endoglucanase in the clarification and dewatering of wastewater and sludges as in the instant method.

Applicants' arguments concerning Huhtamaki are based on the propriety of Rohm and Schulein as combined above. It is submitted that these combinations are deemed properly applied for reasons stated above.


Applicants argue that Sarkar (673) and (674) do not suggest the use of the instantly claimed enzyme preparations in the absence of chemical or enzymatic oxidants. It is submitted that the exclusion of chemical and enzymatic oxidants from the methods of Sarker et al. and the function produced by these oxidants, would have been prima facie obvious to one skilled in the art, absent a sufficient showing of unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Peter A. Hruskoci  
Primary Examiner  
Art Unit 1724

2/15/06